State of Rhode Island and Providence Plantations.

FIFTH ANNUAL REPORT

OF THE

BOARD OF MANAGERS

OF THE

Rhode Island College of Agriculture and Mechanic Arts,

MADE TO THE

GENERAL ASSEMBLY AT ITS JANUARY SESSION, 1893.

PART I.

COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

(PART II.—Agricultural Experiment Station—is printed under separate cover.)

PROVIDENCE:
E. L. FREEMAN & SON, STATE PRINTERS.
1893.

BOARD OF MANAGERS.

Rhode Island College of Agriculture and the Mechanic Arts.

C. H. Coggeshall,	Bristol County.
Chas. O. Flagg,	Providence County.
Chas. J. Greene,	Washington County.
Melville Bull,	Newport County.
Nathan D. Pierce, Jr.,	Kent County.

OFFICERS OF THE BOARD.

Chas. O. Flagg, President,	P. O., Kingston, R. I.
Chas. J. Greene, Secretary,	P. O., Kenyon, R. I.
Melville Bull, Treasurer,	P. O., Newport, R. I.

FACULTY.

JOHN H. WASHBURN, PH. D.,
President, Professor of Chemistry.

CHAS. O. FLAGG, B. SC.,
Professor of Agriculture.

C. B. Wiggin M. D.
Professor of Biology and Comparative Anatomy.

L. F. KINNEY, B. SC.,
Professor of Botany and Horticulture.

A. BOSWORTH, B. SC.,
Professor of Mathematics.

HOMER J. WHEELER, PH. D.,
Professor of Geology.

Wm C. Blake B. Sc. #
Professor of Mechanical Engineering and Physics.

E. J. WATSON, A. M.,
Professor of English and Languages.

THOS. C. RODMAN,
Instructor in Wood and Iron Work.

F. A. LANE,
Instructor in Mechanical Drawing and Assistant Instructor in Mechanics.

J. N. HAMMOND,
Instructor in Drawing.

B. B. HOWARD, L.L. B.,
Instructor in Bookkeeping and Lecturer on Business Law.

SAMUEL CUSHMAN,
Lecturer on Bee Keeping.

MRS. F. G. PRATT,
Matron.

HERBERT F. ADAMS,
Farm Superintendent.

Formerly of Pratt Institute.

COLLEGE CALENDAR.

JUNE 14, ENTRANCE EXAMINATION AT 12 O'CLOCK, M.

FALL TERM, 1893.

September 13,	Entrance Examination.
" 14,	Term begins.
November —,	Thanksgiving.
December 21,	Term ends.

WINTER TERM, 1894.

January 3,	Term begins.
February 22,	Washington's birthday.
March 21,	Term ends.

SPRING TERM, 1894.

April 2,	Term begins.
——— —,	Arbor Day.
June 13,	Term ends.

EXPERIMENT STATION STAFF.

CHAS. O. FLAGG, B. Sc.,	Director and Agriculturist.
H. J. WHEELER, PH. D.,	Chemist.
L. F. KINNEY, B. Sc.,	Horticulturist.
SAMUEL CUSHMAN,	Apiarist and Poultry Manager.
J. D. TOWAR, B. Sc.,	Assistant Agriculturist.
B. L. HARTWELL, B. Sc.,	Assistant Chemist.
H. F. ADAMS,	Farmer.
MISS A. R. FRENCH,	Clerk.

REPORT.

To His Excellency, D. Russell Brown, Governor, and the Honorable the General Assembly of the State of Rhode Island, at its January Session, 1893:

KINGSTON, January 23rd.

The year just closed has been an eventful and important one in the history of the Rhode Island College of Agriculture and the Mechanic Arts. Through an amendment to the law under which the State Agricultural School was established the Board of Managers has become a corporate body, the name of the institution changed and the scope of the work considerably enlarged.

That the present position of the institution may be better understood a brief review of the legislation touching it seems necessary. When the General Assembly accepted the provisions of the act of Congress, approved March 2, 1887, better known as the "Hatch Act," a joint special committee was appointed to "investigate and report what action is necessary and best to be taken by the State that the agricultural interests of the State may derive the greatest benefit in carrying out the provisions of an act passed by the Forty-ninth Congress entitled, 'An Act to Establish Agricultural Experiment Stations;'" also instructed to "investigate and report what disposition is now made of the income derived from the Land Grant Fund received by this State from the United States." The joint committee charged with this duty gave several opportunities to the citizens of the State to express their convictions and desires, and after mature deliberation they reported to the

General Assembly "An Act to Establish the State Agricultural School," which was passed March 23d, 1888, and became Chapter 706 of the Public Laws:

It is enacted by the General Assembly as follows:

SECTION 1. The sum of five thousand dollars is hereby appropriated to be paid out of the treasury for the purpose of establishing a state agricultural school.

SEC. 2. The governor shall, with the advice and consent of the senate, appoint a board of five managers who shall be practical agriculturalists, one member of said board shall be appointed from each county, who shall manage and control the state agricultural school. The members of said board first appointed shall hold their offices, one for one year, one for two years, one for three years, one for four years, and one for five years, and until their successors shall be qualified to act. In every year hereafter there shall be one member of said board appointed for the term of five years. In case of a vacancy in said board such vacancy shall be filled, if the general assembly be in session, by the governor with the advice and consent of the senate; if not in session, by the governor until the next session of the general assembly, when, as soon as may be, an appointment shall be made by the governor with the advice and consent of the senate, to fill such vacancy, and the person so appointed shall hold his office for the remainder of the unexpired term.

SEC. 3. The said board of managers shall establish a system of government for said school and shall make all necessary rules and regulations for receiving students and giving instruction on agricultural and kindred subjects. They may establish rates of tuition. They shall appoint such officers, teachers and employés as shall be necessary, and prescribe their duties and fix their compensation. They shall report annually to the general assembly at the January session.

SEC. 4. Any sum which shall be received by the state by virtue of any act of congress for the promotion of agriculture, shall be appropriated to the use of said board for the purpose for which said sum is appropriated.

SEC. 5. This act shall take effect upon its passage.

By this legislation the General Assembly declared its firm conviction that the best interests of the State would be served by the establishment of a new educational institution and connecting therewith the Experiment Station provided by act of Congress as an auxiliary to the Land Grant Colleges, rather than by connecting said Experiment

Station with Brown University, the recipient of the Land Scrip (and the nominal Land Grant College of the State). In closing their report the joint committee said, in reference to the disposition of the income of the Land Grant Fund: "At public hearings before this committee it was suggested that the purpose for which the fund was made, could be better secured by the University turning over this fund to the school, and it was said by their representatives that the fund was of no particular advantage to the University, and the committee were led to believe that they would willingly transfer the fund for the purposes of this school."

At the January Session, 1890, the State was asked to make an appropriation for defraying the expenses of the school, that the doors of the new institution might be opened in September for the entrance of the first class of students.

An amendment to Chapter 706 was passed March 27th, 1890, as Chapter 851, entitled, "An Act in amendment of Section 4 of Chapter 706 of the Public Laws":

CHAPTER 851.

AN ACT IN AMENDMENT OF SECTION 4 OF CHAPTER 706 OF THE PUBLIC LAWS.

It is enacted by the General Assembly as follows:

SECTION 1. Section 4 of Chapter 706 of the Public Laws, passed at the January session, A. D. 1888, is hereby amended so as to read as follows:

"SEC. 4. Any sum which shall be received by the state by virtue of any act of congress for the promotion of agriculture, shall be appropriated to the use of said board for the purpose for which said sum is appropriated, and the sum of ten thousand dollars or so much thereof as may be necessary, is hereby annually appropriated for the purpose of defraying the expenses of said school, the same to be expended under the direction of said board; and the said board shall render annually at the January session of the general assembly an account of the manner in and the purposes for which said money was used and expended."

SEC. 2. All acts and parts of acts inconsistent herewith are hereby repealed, and this act shall take effect upon its passage.

The members of the board interested themselves during the spring and summer in urging upon our Congressmen the needs of the institution in giving agricultural and mechanical education and the very great assistance the passage of the bill then before Congress making appropriations for that purpose would give them. Congress, on August 30, 1890, passed the bill known as the "New Morrill Bill," as an amendment of the Land Grant Act, and making an appropriation to the various States and Territories for agricultural and mechanical education.

Our Congressmen and friends of the school both in and out of the State believed that this appropriation by Congress would be available for the support of the newly-founded Agricultural School, and *more especially* as the authorities of Brown University *had already* taken steps toward returning to the State the Land Grant Fund. In this, however, the friends of industrial education were disappointed. A question arising as to whether Section 4 of Chapter 706, quoted above, gave the money *to the State Agricultural* School or whether the institution in possession of the fund arising from the sale of Land Scrip, granted under the act of Congress, July 2d, 1862, was entitled to it, led the chief executive of the State to submit the matter to the Supreme Court for an opinion. The court in reply said:

"The first question propounded to us is, 'Which of the two institutions above named, the college or the school, is entitled to receive the money now due under the act of Congress approved August 30, 1890?' We have to say, in answer, that we see no grounds on which the money can be properly claimed for the Agricultural School. By the expressed terms of said act of Congress, the money is appropriated to be paid to each State and Territory, 'for the more complete endowment and maintenance of colleges for the benefit of agriculture and the mechanic arts, now established, or which may hereafter be established in accordance with an act of Congress approved July 2, 1862,' and the Agricultural School is not such a college so established. There is nothing in said Chapter 706 that indicates that it was intended to be so established, and your Excellency does not state that it was in fact so established. It does not purport to be a college for the benefit of agriculture and the mechanic arts, but it only purports to be an agricultural school. It may be thought that the fourth section of said Chapter 706 can have some controlling effect. If the money had been appropriated

for the promotion of agriculture without specification of the purpose, the section doubtless would control; but the money is appropriated specifically for the more complete endowment and maintenance of colleges for the benefit of agriculture and mechanic arts, established or which may hereafter be established under the act of Congress of July 2, 1862; and of course the State cannot lawfully receive it for any different institution or purpose. The act of Congress is paramount to the statute of the State.

We are, therefore, of opinion that said college, or, rather, said Brown University, in its behalf, is at present the only institution in the State which is entitled to receive the money due as aforesaid."

In view of the opinion of the court, the University promptly rescinded its offer to return to the State the Land Grant Fund, and appointed a committee to make contracts with the State. At the January Session of the General Assembly, 1891, a joint special commission of ten members was appointed to "confer with the authorities or representatives of Brown University concerning the return to the State of the Agricultural Fund of fifty thousand dollars . . . . and also concerning the disposition of the money appropriated by an act of Congress approved August 30, 1890, etc." The commission gave several public hearings, and at the January Session, 1892, made a "Majority and Minority report." We quote first from the "Majority" report: "It has been shown at the hearings, and by the petitions from all parts of the State now before the commission, that many people feel that from the national fund arising from the act of July 2, 1862, as at present executed, the agricultural and mechanical classes are not receiving the advantages which are rightly theirs. These people, too, have expressed themselves as desirous that Brown University shall relinquish its claim to the national bounty, in order that the State school receive its benefits. It would seem that there are two possible ways by which the result these petitioners desire might be obtained. One is for the General Assembly to formally request Brown University to return to the State the funds derived from the sale of the Land Scrip donated by the act of Congress approved July 2, 1862, the State reimbursing that institution for all expenses which have been incurred in the execution of the trust and arranging for State beneficiaries now

connected with the college to complete their courses of study." In accordance with this suggestion a resolution covering the points enumerated was presented in the Senate and referred to the Judiciary Committee but never reported by them.

The "Minority" report made the following statement of facts:

"First—That the school at Kingston is more nearly an institution as was contemplated to have been established under the Congressional act of 1862, than is the agricultural college department at Brown University.

Second—That the sum of fifteen thousand dollars, now annually accruing and paid to the State by the General Government under the Congressional act of 1887 (known as the "Hatch act") and expended by the State at the Kingston Experiment Station, is an appropriation germane to the purposes of both the Kingston school and the national appropriation of 1890, and the two appropriations should be conjointly expended; in fact, the appropriation under the "Hatch act," and discontent with the administration of the fund of 1862 were the promoting causes of the establishment of the Kingston school, which school, so far as the State could indicate, was made to be the future beneficiary of all Congressional appropriations, for like educational purposes in this State, and no exceptions have been or justly can be taken thereto.

Third—That Brown University, or its agricultural department, as at present, cannot obtain the appropriations of the General Government under the act of 1890, unless the State accepts it for them, no contract with the University under the act of 1863 having been executed.

Fourth—That if the State shall accept the appropriations without previous legislation they will go directly to Brown University, as at present go the proceeds from the Land Scrip Fund of 1862.

Fifth—In view of the past, which is too well understood to need recapitulation, the State should not accept the appropriations of 1890 for Brown University, at least until a contract with stipulations susceptible of ready enforcement, and pledging that corporation to apply the moneys so to be received advantageously and practically, in accord-

ance with the manifest purpose of the acts of Congress making the several appropriations, shall have been entered into, and under all circumstances the General Assembly should thoroughly scrutinize and well apprehend the import or want of import of propositions entertained, and retain to itself a measurable control of the Congressional appropriations of 1887 and 1890, which are yet within its power substantially to direct, nor under any circumstances should these appropriations be bestowed beyond the power of the State to recall.

Sixth—The right of the State to establish colleges in accordance with the Congressional act of 1862 being provided for and guaranteed by the act itself, and the appropriations under the Congressional act of 1890 being expressly for the more complete endowment of such colleges "established or that *may be* established" in accordance with the act of 1862—the passage by the General Assembly of the accompanying act and resolutions herewith submitted as Appendix B and C, respectively, are respectfully recommended."

"Appendix C" was a resolution substantially the same as suggested by the Majority report and introduced in the Senate as above stated.

"Appendix B" was a draft of an act in amendment of Chapter 706 and was introduced as recommended in the House of Representatives, where it was referred to the Committee on "Special Legislation." To both the Majority and Minority reports were appended propositions from the authorities of Brown University to adopt the Kingston school as its agricultural department with various modifications and additions. Three public hearings were held by the committee, and on May 11th they reported for passage a substitute bill and recommended the indefinite postponement of the original bill. The substitute bill provided for a joint control of this institution by the State and Brown University under and the expenditure of a *portion* of the fund received by the State the act of Aug. 30, 1890, at Kingston under the direction of a Joint Board of Managers and the expenditure of the *balance* at the University without *any control by the State*. A warm debate followed, resulting in the indefinite postponement of the substitute bill. The original bill

then came up for discussion, was amended in two or three particulars and passed the House by a large majority and, later, passed the Senate by a unanimous vote.

CHAPTER 1078.

AN ACT IN AMENDMENT OF CHAPTER 706 OF THE PUBLIC STATUTES, ENTITLED, "AN ACT TO ESTABLISH THE STATE AGRICULTURAL SCHOOL."

It is enacted by the General Assembly as follows:

SECTION 1. The present board of managers of the State Agricultural School, and their successors, for the terms for which they have been or for which they hereafter may be appointed or elected as such managers, are hereby declared to be a body politic and corporate, for the purpose of continuing and maintaining said State Agricultural School as a college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life, as provided in the act of the congress of the United States approved July 2, 1862, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," and for the purpose of continuing and maintaining an agricultural experiment station as a department of said college under and in accordance with and to carry out the purposes of the act of congress approved March 2, 1887, entitled "An act to establish Agricultural Experiment Stations in connection with the colleges established in the several States under the provisions of an act approved July 2, 1862, and of the acts supplementary thereto, by the name of the Rhode Island College of Agriculture and Mechanic Arts, with all the powers and privileges and subject to all the duties and liabilities set forth in Chapter 152 of the Public Statutes and in any acts in amendment thereof or in addition thereto.

SEC. 2. Said College and Experiment Station shall, until otherwise ordered, be located in the town of South Kingstown, upon the estate now occupied by said State Agricultural School and Experiment Station. And all moneys hereafter received under said act of congress approved March 2, 1887, and under the act of congress approved August 30, 1890, entitled "An act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts, estab-

lished under the provisions of an act of congress approved July 2, 1862," and all other moneys, which shall be received by the State for the promotion of agriculture or the mechanic arts, under or by virtue of any act of congress, shall, as and when received, be paid over to the treasurer for the time being of said college corporation, to be used and applied and accounted for by the managers and officers of said corporation for the time being, as required by the respective acts of congress under which the same are received.

And the managers and officers of said corporation shall perform all the duties, and make and publish, distribute and render, all bulletins and reports required by said acts of congress, or by any acts in amendment thereof or supplementary thereto; and shall also report to the general assembly annually at its January session.

SEC. 3. The said members of the present board of managers of the State Agricultural School are hereby created and declared to be the board of managers of said college corporation, and their respective terms of office shall expire at the same times as they would have expired under the provisions of said act, Chapter 706, to which this act is in amendment.

And all future members of said board of managers of said college corporation and all future vacancies in said board, shall be appointed and filled in the manner provided by Section 2 of said Chapter 706, except that the words "who shall be practical agriculturists," in said Section 2, are hereby repealed; and every future member of said board shall be a domiciled inhabitant of the same county as was the retiring member of the board whose place he is appointed to fill.

SEC. 4. Said board of managers shall annually elect one of their own number to be president of the board, who shall also be the president of the corporation, and shall continue in office until his successor is elected.

They shall also from time to time appoint a treasurer and a clerk, who shall also be officers of the corporation, and who may be, but need not necessarily be, the same person or members of the board, and who shall hold their respective offices at the pleasure of the board. The treasurer, before entering upon his office, shall give bond to the State for the faithful discharge of his duties in form to be approved by the attorney general in a penal sum to be fixed by the said board of managers, and with surety or sureties to be approved by the governor, such bond to be filed and to be kept on file in the office of the secretary of state, and which bond shall be renewed whenever required by the board of managers or by the governor. And the treasurer shall make a full detailed report annually to the general assembly at its January session of all his receipts and expenditures, properly audited by the board of managers or a committee thereof.

SEC. 5. Said board of managers shall have the general care and management

of said estate in South Kingstown and of said college and experiment station, and may employ such professors, teachers and other persons in and about the same, and prescribe their duties and fix their compensation, and from time to time make rules and regulations for their government, and may also make by-laws, rules and regulations to govern their own meetings and proceedings.

Said board of managers shall from time to time appoint the faculty of said college; and such faculty shall from time to time arrange the courses of study, conforming to said acts of congress in this behalf, and prescribe such qualifications for admission of students, and such rules of study, exercise, discipline and government as they shall deem proper; they may also grant academical degrees and diplomas appropriate to the courses of study to those students of good moral character who shall have pursued the prescribed courses and passed satisfactory examinations.

SEC. 6. This act shall take effect from and after its passage.

The following resolution passed both houses in company with the college bill:

RESOLUTION accepting the provisions of the act of Congress, approved August 30, 1890, entitled "An act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of an act of Congress approved July second, eighteen hundred and sixty-two."

Resolved, The Senate concurring with the House in the passage hereof, that the General Assembly of the State of Rhode Island does hereby express its acceptance, in behalf of the State, of the benefit of the act of Congress approved August 30, 1890, entitled "An act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of an act of Congress, approved July second, eighteen hundred and sixty-two," for the purposes named in said act of Congress.

There seemed to be quite a general opinion among those interested in industrial education that when the General Assembly should emphatically appropriate the income under the act of 1890 for the maintenance of this institution, Brown University would not further antagonize the desire of the people; but such hope was only born for disappointment. As soon as possible after the passage of the act on May 19th, the corporation of Brown University filed with the General

Treasurer a duly certified *demand* that all moneys received by him under the act of Congress, August 30th, 1890, should be paid over to the Treasurer of that institution, and furthermore, through their attorney, secured from the Supreme Court an *ex parte* injunction restraining him from paying any of said moneys to the Treasurer of this Board of Managers.

At a meeting of the board on May 28th the act of incorporation was accepted and organization completed under the act. The amount of the Treasurer's bond was fixed at twenty thousand dollars ($20,000) and papers duly executed in accordance with the requirements of the act were filed by him with the Secretary of State, and thereupon our corporation and Treasurer were made parties defendant to the case and summoned to answer the same. The Attorney General, as the legal representative of the State, was also made a party defendant in the case. The Treasurer of the board was authorized to employ counsel, and he, with the Attorney General and General Treasurer, petitioned the court for the removal of the case to the United States Circuit Court on the ground that the laws of the United States as well as laws of the State were involved. The petition was granted, and the case has been duly entered in that court, where it is now pending, no hearing upon it having yet been reached.

The resolution introduced in the Senate at the last January Session, asking the University to return to the State, under certain conditions, the Land Grant Fund, as suggested in both the "Majority" and "Minority" Reports of the Agricultural Fund Commission, was not pushed to an issue because of the almost universal opinion that the General Assembly had but to express the desire of the people in regard to the disposition of the 1890 fund in an official manner to have the University voluntarily relinquish the trust previously confided to it. This opinion has been proven erroneous; the University, instead of surrendering the trust, immediately made it the basis for *contesting* the *legality* of the act of the General Assembly, and temporarily rendering it inoperative. Because of this action of the University, we would respectfully urge your Honorable Body to demand of Brown University

the return of the fund received from the sale of the Land Scrip granted to this State by virtue of the act of Congress of July 2, 1862, the State reimbursing the University for all expense incurred in locating and disposing of the same, and providing for the satisfactory termination of all scholarships now held under the agreement of 1863.

We would urge this demand for the following reasons, viz.: The agreement of 1863 was *incompatible* with the requirements of the act of Congress of July 2, 1862, and, furthermore, said requirements have never been discharged by the University in accordance with the act.

Second—That fund as well as the funds received under all other Congressional acts for agricultural and mechanical education and agricultural investigation, are *public funds* and should be *at all times* within the power of the State, and applied at an institution under the control of the State.

Third—In answer to a strong public demand this College of Agriculture and Mechanic Arts has been established by the State at Kingston, and we feel justified in saying that the success attained in its nearly three years work, as manifested in the attendance of the pupils and support of the people, vindicates its right to exist and proves the wisdom of its establishment; but the Government has provided the means to defray the expense, in large measure, of conducting such institutions; this State does not require *two* Agricultural Colleges, and the commission instrumental in establishing this college at Kingston "were led to believe that they (the University) would willingly transfer the fund for the purposes of this school." The use of these Government funds at this college will largely relieve the State and the people of the burden of its support, and it is eminently proper that the State should demand the return of the trust which is now, on the part of the University, being made the foundation of a legal contest with the State.

The passage of the act creating the Agricultural School a "College of Agriculture and Mechanic Arts," in accordance with the provisions of the Land Grant Act of 1862, broadened the scope of the institution

and imposed upon the Board of Managers, greater responsibilities than had heretofore existed. A three years course of study had been adopted for the school, but that was found inadequate to enable the student to reach the standard of a college graduate, entitled to a degree. The course of study was therefore lengthened to four years and the additional time given, not so much to new branches of learning, as to greater perfection in the work of the earlier part of the course. The lengthening of the course adds one class to the number of students at the institution and in much more than that proportion increases the amount of teaching force required, because the fourth year demands a more advanced grade of work, both in the class room and the laboratory.

The school has been supported thus far by an annual appropriation of $10,000. By close economy, coupled with the fact that the board engaged its teachers at especially low salaries, (the Veterinarian excepted) the President of the college receiving but $1,500 annually and others a proportionate amount, and that the Experiment Station has never received any compensation from the school or college for the teaching done by any member of its working force, that amount has been barely sufficient. The Veterinarian was dismissed and the position declared vacant July 1st, partly on account of lack of funds. A reduction of one-third had been made in the salary of that officer, the previous January, for the same reason.

Considerable addition is necessary to our equipment in laboratories and shops that our first class of students may have the necessary facilities to prosecute their studies to the best advantage. Some additional teachers must be secured and the pay of those we have made proportional to the additional amount of work required, and raised, so as to compare more favorably with the salaries paid in our grammar, high and normal schools, or we cannot hope to retain our instructors. Were the college already in receipt of the funds provided for its support, viz., the money received by the State under the act of Congress of August 30, 1890, any additional appropriation would be unnecessary, and even a portion of the regular appropriation of $10,000 would be saved to

the State, as the money received under the Congressional act would be amply sufficient to defray all expenses of teaching and facilities for instruction. Inasmuch as the action of Brown University in placing an injunction upon the General Treasurer has temporarily deprived this institution of the use of those funds as provided in the act of incorporation, it seems necessary for your Honorable Body to increase the appropriation for the maintenance of this institution. The Board of Managers, carefully considering the best interests of the college and the expenditures necessary the ensuing year, ask that $20,000, instead of $10,000, be appropriated until such time only as the funds under the act of Congress, August 30, 1890, become available to our use.

The board have held thirteen meetings during the year, six of which have been in Providence and seven at Kingston.

We take pleasure in submitting herewith the report of Dr. John H. Washburn, President of the college, following which will be found the report of the Treasurer of the board, Hon. Melville Bull.

The members of the board desire to acknowledge the faithfulness and diligence with which President, Professors and Instructors have labored for the advancement of the work of the institution, and to commend the earnestness and interest of the students as a body.

Respectfully submitted by the Board of Managers,

CHARLES O. FLAGG,

President.

REPORT OF THE PRESIDENT.

To the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts:

GENTLEMEN: It gives me pleasure to submit to you the following report concerning the progress and needs of our Institution:

HISTORY OF THE INSTITUTION.

In 1863 the State of Rhode Island accepted from the United States Government the land grant scrip, which gave to each state thirty thousand acres of the public lands for each Senator and Representative in Congress. The land was to be sold by the states, or their agents, the proceeds arising from the sale invested, and the annual income derived therefrom was to be "inviolably appropriated by each State which may take and claim the benefit of this act, to the endowment, support and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and the Mechanic Arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

On March 2d, 1887, the act known as the Hatch Act was passed, appropriating $15,000 annually to each State, for the purpose of establishing an Agricultural Experiment Station in connection with an Agricultural College or School.

From the time of the acceptance by the State of Rhode Island of

the land scrip in 1863, there were many people who felt that this State did not offer to young men such advantages for instruction in agriculture and mechanic arts as others afforded, which had genuine agricultural and mechanical colleges. So great was the dissatisfaction among the citizens of Rhode Island at the absence of these educational advantages, that they were determined to have the Hatch Agricultural Experiment Station located at a *bona fide* agricultural educational institution.

Such was the origin of the Rhode Island State Agricultural School, established according to Chapter 706, passed May 23, 1888, (see report of President of Board of Managers). The success of this Agricultural School was almost phenomenal. It entered over thirty pupils in its first class, and as many in its second. People felt that Rhode Island had at last taken a step towards giving agricultural education to its people. The education given at the school was liberal, scientific and practical. Agricultural mechanics was an important feature in the education.

In June, 1890, the Corporation of Brown University, which had been realizing the benefits of the interest of the moneys received from the land scrip, and using the same for scholarships to the University, realized the fact that the school at Kingston could use the funds more in accordance with the purpose for which they were given to the State. Therefore, they voted on September 3d, 1890, to return the Agricultural Fund, as will be seen in the following letter, taken from the message of His Excellency, John W. Davis, to the General Assembly at its January Session, 1891, (Appendix B, No. 1).

PROVIDENCE, R. I., Oct. 2, 1890.

To His Excellency John W. Davis, Governor:

MY DEAR SIR:—At a meeting of the Corporation of Brown University held on the 3d ultimo, upon a recommendation in my report last June, the following vote was passed, with a view of returning to the State of Rhode Island the Agricultural Fund of fifty thousand dollars ($50,000) which originated from the sale of the Land Scrip donated to the State of Rhode Island by act of Congress,

July 2d, 1862, and to Brown University by act of the Rhode Island General Assembly in January, 1863:

That a committee be appointed, of which the President shall be chairman, to confer with the General Assembly and arrange, if it can, the terms of return (of the Agricultural Fund) and that after the terms have been arranged, the treasurer being notified thereof, be authorized and directed to make the return accordingly.

This committee consists of A. B. Chace, J. C. B. Woods and myself. It has seemed to me proper to advise you of this proposition and inquire whether you have any suggestion with reference to the best manner of accomplishing our end. I take it for granted that the committee, consisting of Your Excellency, the Secretary of State and myself, are in duty bound to appoint the usual number of scholars this autumn, and I suppose that this appointment will be made within a few days. The gentlemen in the corporation with whom I have spoken upon the subject think that we are in duty bound to continue upon this agricultural foundation all the scholars who are upon it at the time when it is given back to the State until they shall, one after another, graduate. This is the only condition we should be inclined to make touching the return of the fund. I think that no one will object to it, since the Agricultural College will not need its full resources for one or two years. I have the honor to be

Yours with great respect,

E BENJ. ANDREWS,

President of Brown University.

The Legislature was not then in session; had it been, the offer would have been accepted, and all the trouble which has been such a serious drawback to the advancement of this Institution would have been avoided.

The U. S. Congress, on August 30, 1890, passed an act known as the New Morrill Bill. This appropriated for the further support of the Agricultural and Mechanical Colleges, a sum beginning with $15,000, and continuing with a yearly increase of $1,000, until the annual appropriation should reach $25,000.

After learning of the above generous offer made by Brown University on September 3d, His Excellency, Gov. Davis, asked of the Supreme Court of the State, which institution was entitled to the funds

from the Morrill Bill. The Court answered that Brown University "is *at present* the only institution in the State entitled to receive the money."

This answer caused a special meeting of the Corporation of Brown University to be held on January 8th, the result of which is shown in the following letter, quoted from Gov. Davis' message to the General Assembly at its January Session, (Appendix B, No. 2).

PROVIDENCE, Jan. 14, 1891.

To His Excellency John W. Davis, Governor of Rhode Island:

MY DEAR SIR:—Referring to my letter to you of Oct. 1st, 1890, I have the honor to inform Your Excellency that the Corporation of Brown University, at a special meeting on the 8th inst., in view of the new aspect put upon affairs by the act of Congress approved August 30, 1890, and the opinion thereon of the judges of the Supreme Court of the State, communicated to Your Excellency December 2, 1890, rescinded their vote creating the committee of whose existence I then notified you, and raised a new and larger committee, with ampler powers. The new committee is as follows: The President of the University, the Chancellor, Mr. William Goddard, Hon. Thomas Durfee, Hon. F. A. Gaskell of Worcester, Mass., Arnold Green, Esq., Mr. Robert I. Gammell, and Hon. Oscar Lapham. It is considered probable that after the meeting of the General Assembly a committee of that body, or of one or other branch thereof, will be created to consider the subject of the Land Grant under the act of Congress mentioned above. The committee of our corporation will be most happy to wait upon said legislative committee whenever the latter shall desire and appoint. I append the whole action of the corporation at its meeting on the 8th, so far as it related to this matter.

Yours with sincere regard,

E. BENJ. ANDREWS,

President of Brown University.

WHEREAS, By an act of Congress approved August 30, 1890, entitled "An act to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts, established under the provisions of an act of Congress approved July 2, 1862," Rhode Island, like each of the other States, became entitled to $15,000 for the year ending June 30, 1890, $16,000 for the current United States fiscal year, $17,000 for the next year, and so on, the sum increasing by $1,000

each year until it reaches $25,000 a year, which is to be the permanent annual appropriation; and

WHEREAS, On December 2, 1890, responding to an official inquiry made by the Governor, the judges of the Supreme Court of the State of Rhode Island declared it to be their opinion that Brown University is the only institution in the State which can legally receive the said new Land Grant Fund; and

WHEREAS, The Land Grant Fund of $50,000, originating in the sale of the Land Scrip donated to the State of Rhode Island by the act of Congress approved July 2, 1862, and to Brown University by the General Assembly of Rhode Island in January, 1863, under which Brown University erected its College of Agriculture and Mechanic Arts, was clearly intended, so far as it went, for the same general purpose as the fund of 1890, therefore, be it by this corporation

Voted, That the vote of this corporation on Sept. 3, 1890, raising a committee to confer with the General Assembly with a view to the possible return of the said fund of $50,000 to the State, be, and hereby is, rescinded.

The further action was:

Voted, That a committee of seven be appointed to consider the obligations and duties devolving upon this corporation in consequence of the act of Congress approved August 30, 1890, and with full power to make any and all contracts with the State of Rhode Island which may be deemed wise and necessary in the premises.

The Agricultural School continued to grow, and its friends, thinking it could do better work by adopting the college course of instruction, caused to be introduced into our General Assembly a bill entitled An Act in Amendment of Chapter 706 of the Public Statutes, entitled An Act to establish the State Agricultural School, (see report of Board of Managers). This amendment passed May 19, 1892.

It was so near the end of our school year that the new College did not attempt to change its course of instruction until after the close of that year, June 17, 1892.

During the summer the Faculty met and arranged a course of study and training for the new College, which was subsequently accepted by the Board of Managers, and went into effect at the opening of the last fall term, September 14, 1892.

And now new obstacles have arisen in our already rough path. When we were incorporated a College, the General Assembly passed a vote that we should have the proceeds of the Morrill fund, which that year was $18,000, for the maintenance of the College. This, with even a smaller appropriation from the State than the College is now receiving, would be ample funds for the continued maintenance of this institution on a college basis. When we were made an Agricultural and *Mechanical* College, we were obliged to change our course of instruction to bring it in conformity with that given by kindred institutions in other states. It was necessary to add to the number of subjects taught and to elevate the character of the instruction. For example, we are obliged to teach mechanics, both practical and theoretical; new professors, machinery and apparatus must be employed, and our courses in mathematics and physics must be extended, involving more work and more apparatus. The means for the instruction were provided for by the "Morrill Bill," but we are unable at present, to realize anything from that source; therefore, in order to continue our work as a College it is imperative that we have sufficient funds to add to our teaching force, which is at the present time overworked, and also to maintain and extend the departments we already have. It is safe to say there is no other college of this nature in our country where the professors are required to have so many hours in recitation, the result being that less time can be given to laboratory work. An instructor is capable of doing only a definite amount of work. Some of our professors spend four hours every morning in lectures and recitations, and three-fourths as many hours in the afternoon in laboratory work or in exercises. No human being can prepare himself properly for higher instruction in any of the subjects taught here, and keep his health, with the above amount of work. It is necessary that we have a professor of physiology, zoölogy and mental science, another as a mechanical engineer, an assistant in English and languages, and an assistant or clerk in the office of the President, where all the individual accounts of the students are kept. This work has rapidly increased, and I have been obliged to depend for help upon the

students. It has been necessary to have the accounts attended to each day, and the questions and notices which have to go to and from my office make it needful that some one be there most of the time. I shall be obliged to spend more of my time during the coming year in the chemical laboratory and lecture room, because I shall have an additional class to instruct in chemistry; therefore, in order to continue the line of work with the increasing number of students and the increasing amount of work it will be necessary that I have a clerk.

I must also call your attention to the needs of our library. The instruction in English requires the use of a large number of books; in fact, books must be considered the laboratory apparatus of our English work. An appropriation of at least $600 is needed for the coming year, for the English department, together with a few books for the other departments. Our chemical, physical and mechanical laboratories require additional maintenance. In surveying, during the past year, we have borrowed some instruments, but in the future this will be impracticable, and we must provide ourselves with them. The College owns no compound microscopes. We have been able to borrow four from the Experiment Station, but that number is not enough for a class of twenty. Other colleges furnish a microscope for each student, as the work in botany and microscopy demands, and I feel that this institution should do the same. An expenditure of $1,000 is required for apparatus in the botanical and biological laboratory, and a few dollars for agricultural and geological collections. Under a careful and economical management the institution can be conducted on a college basis with an additional appropriation of $10,000, which should continue until we receive the proceeds of the Morrill fund.

The character of the work done by the students is good. I believe they appreciate the advantages given them by the State.

During the past year we have had some changes in our faculty. Miss Anne Bosworth was appointed professor of mathematics, and entered upon her duties in April last. She has in every way performed the duties of her position in a most satisfactory manner. At the end of the summer term, Miss Stockbridge, an excellent teacher in English

and languages, resigned. She had been connected with our school since its beginning, and we were very sorry to lose her from our corps of instructors. Miss E. J. Watson was appointed in her place, and our pupils feel that they have not lost their old friend, but that they have gained a new one. In June we were obliged to lose Dr. Rice from our corps of instructors, and as yet his place has not been satisfactorily filled. In changing our course of study we have placed our drawing in the spring term. Miss Hammond, who taught it so admirably last year is now in her new studio in Boston; we hope she may return to us in the spring; we shall be much disappointed if she cannot arrange to do so.

The buildings belonging to the college are in an excellent state of preservation. All little repairs becoming necessary our mechanical department is ready to make. The care of the students' rooms is intrusted to themselves. I have offered a prize of $3 for the best kept room in the building, and another of $2 for the second best room. This term the room which has been kept in the best order is occupied by Howland Burdick of Newport, Charles S. Clarke of Jamestown, John E. Hammond of Jamestown, and Jesse C. Tefft of Jamestown. In the second best room are George W. Burlingame of Chepachet, E. H. Mathewson of Providence, Reuben W. Peckham of Middletown, and Charles M. Hughes of Middletown.

During the past year the students have kept up their reading room association. The papers and magazines taken are: The Century, Popular Science Monthly, Harper's Bazar, Illustrated London News, Scientific American, Frank Leslie's Popular Monthly, Sunday School Times, Scientific American Supplement, Harper's Monthly, Harper's Weekly, The Cosmopolitan, Art Amateur, Photographic Amateur, Pacific Rural Press, Chatauquan, Judge, The Forum, American Gardening, New York Daily Tribune, and Review of Reviews. The following publications are donated to the reading room: Public Opinion, Journal of Education, The Cultivator and Country Gentleman, Journal of the American Chemical Society, Rural New Yorker, Life, The Golden Rule, Narragansett Times, American Agriculturist, New England

Homestead, Baltimore Sun, Olneyville Times, New Nation, Voice, Farm Poultry, American Horse Breeder, Poultry Journal, American Cultivator, Ladies' Home Journal, and Good Roads (given by R. Hazard). The Providence Journal, Westerly Narragansett Weekly, Rhode Island Pendulum and Evening Telegram are donated by their respective publishers. We have received a full set of the reports of the Board of Health of this State, with its monthly bulletins.

With donations we would also mention one "Acme" Pulverizing Harrow, Clod Crusher and Leveler, No. 15 (A), from Duane H. Nash, Millington, N. J.

During the past year a few additions have been made to our library, such books as were absolutely necessary in our regular teaching. The greater number of additions have been made in the line of History, Literature and works on English.

INSTRUCTION.

GENERAL AND AGRICULTURAL CHEMISTRY.

With our new course of study, instruction in chemistry begins with the Sophomores' third term. It consists of lectures and recitations three hours per week, with laboratory work one afternoon per week. The same number of lectures and recitations is continued during the first term, Junior year, and the laboratory work consists of qualitative analysis two afternoons per week. During the second term, Junior year, organic chemistry is begun, consisting of lectures three hours per week, and qualitative analysis is continued six hours per week. During the third term, agricultural chemistry is taught by lectures four hours per week, and qualitative analysis three afternoons per week. The instruction in agricultural chemistry consists of lectures and recitations with laboratory work upon artificial digestion, analysis of soils, fodders and fertilizers, milk, butter and cheese, tests for poisons in the stomachs of different animals, analysis of fruits for sugar, starch and albuminoids, and the study of chemical changes in soils. Instruction in inorganic chemistry is similar to that given at most institutions.

Special illustrations, however, are given in the line of agriculture, physiology and hygiene, for the purpose of making the chemistry of the farm and kitchen familiar to all. In the chemistry of the halogen compounds, especial attention is given to photographic chemistry and manipulation, which prepares the students for a special course in photography, which is given as an elective branch of the study of chemistry.

DRAWING.

The instruction in drawing and clay modeling, during the past year, has given very pleasing results. Miss Hammond has been able to take these young men, who have never had any instruction whatever in this direction, and teach them, in the short course which we have, to make effective and intelligent sketches from models, studies, landscape, and, even to some extent, from life. A limited number of students have taken special lessons in clay modeling, working almost entirely from casts, though in some cases they have worked from life and from parts of machinery. This department of instruction is of utmost importance to the mechanic, and perhaps of equal importance to the agriculturist. I believe this department of instruction should be encouraged to a considerable extent. Outside its practical value to the mechanic, and to the agriculturist, who should be something of a mechanic in order to be most successful in his occupation, this branch has an educating and refining influence upon the student second to none other. To those who have any adaptability to such instruction, I believe their time is as well spent as with botany, chemistry and mathematics. I hope that the facilities for elective study in this department will be increased.

GEOGRAPHY, ZOOLOGY, AND PHYSIOLOGY.

The chair of Physical Geography, Zoology, Human and Comparative Physiology and Hygiene, which was left vacant by the departure of Dr. Rice, is yet to be filled. It is hoped that we shall have sufficient additional appropriation to fill the chair as becomes an institution of this character. An appropriation for laboratory material for this branch of work, and also for Veterinary instruction, is imperative. Veterinary

science has not been taught as yet; it will be given to the Senior class next year for the first time. An appropriation of at least one thousand dollars is needed in this line, together with the necessary laboratory apparatus for biology.

PRACTICAL BEE CULTURE.

A knowledge of the habits of bees, how to breed and improve them, and the principles underlying their management for the production of the greatest amount of honey, is not only of value on account of the opportunities presented by the abundant honey pasturage of many sections of our country, but also in view of the important part bees play in aiding the fertilization of many crops; thus doing greater service than in furnishing honey. This interesting branch will be taught by Mr. Samuel Cushman, Apiarist of the Experiment Station, who will be remembered by many of the people of the State as an enthusiastic bee-keeper and honey producer—whose instructive exhibits of bees and honey at fairs have helped spread an interest in bee culture in this section. He is thoroughly familiar with practical bee-keeping in all its branches and is personally acquainted with the methods of the largest and most successful honey producers in this country.

This instruction will be thoroughly practical. The natural history, physiology, and the peculiar habits of bees will be taught, to acquaint the student with the reasons for performing the various operations, but the class-room instruction will be but an introduction to the pratical work in the Experiment Station Apiary. Here students will occasionally spend a few hours during one spring and fall term; put together hives, prepare boxes for comb honey, open hives of bees, divide colonies, hive swarms, rear queens, re-queen colonies, make several colonies into one, adjust surplus cases, gather the honey crop, clean and crate comb honey, extract and bottle liquid honey, and prepare the colonies to safely pass the winter. Only by actual work among the bees can confidence be gained and the knowledge made really available.

The Apiary of twenty colonies is fitted with the best of hives for performing all the operations in vogue among bee-keepers with the

least amount of labor, and furnishes bees, combs, queen-cells, and other illustrative material for use in the class room. The Station collection of the different hives used by the various leading honey producers is also a valuable aid in this line of work.

An examination on the fundamental principles of bee management as well as to the proper procedure in supposed cases or emergencies, will be made at the end of the course.

Practical demonstration in the Apiary is, to a certain extent, given to all visitors who are specially interested in the work, as well as advice relating to bee management.

WINTER COURSE IN AGRICULTURE AND MECHANICS.

That the college may become as useful as possible to those in the State who desire to receive instruction in all, or in a portion of the subjects taught, the Board of Managers have considered it wise to open a short course in Agriculture and Mechanics. Persons taking this course may have special instruction in veterinary science, agriculture, the chemistry of fertilizers, dairying, (including milk, butter and cheese analysis) carpentering, wood carving, iron work, and be permitted to take any recitation or lecture given to the regular classes, and as may seem best adapted to time and need of the individual. The course of study for such as take this special course will be decided during the first week of the term, and no change in this course will be allowed during the term unless by consent of the faculty.

This short course will continue during the winter term, from January 4 to March 29.

AGRICULTURE.

To the President:—

This subject covers a broad field of study, investigation and research. Besides the subjects which form the direct bases for the lectures and recitations in this division, it is intended that other branches of instruction shall be taught "in their relation to agriculture;" hence in the study of chemistry the *very* great influence of chemical research upon progress in agricultural investigation

and knowledge must be emphasized; the same is true of botany, geology, entomology, and in fact all the natural sciences. Any one of these can be taught as a *science* with hardly a passing thought to connect it with the practical, every-day life of the farm. Nothing less than a perfect realization of this fact could have led the great pioneer of agricultural education—the father of the Land Grant act—to make the above stipulation therein. The direct instruction in Agriculture aims to begin with such subjects as may be familiar to the student in the freshman class, and about which he has some elementary knowledge. Farm buildings, tools, crops, and their cultivation, and farm management are subjects studied in the class-room and the field during the first and second years. Meanwhile the student is gaining some knowledge of the laws of nature in the study of chemistry, botany and physics, which are essential to an intelligent study of soils and drainage, manures and fertilizers, stock-breeding and feeding, which form the chief subjects of study during the last two years of the course. The field work of the experiment station, and the operations of the farm are constant object lessons for the students, and stock, tools, and machinery may at any time be used for practical illustration.

The aim of the afternoon out-door work is instruction, and when the circumstances are such that no actual labor is performed, no payment is made to the student, but when the student performs labor of value to the Institution during class hours he is paid therefor not exceeding ten cents an hour.

A modern farm barn with a silo and facilities for keeping a dairy, sheep and other farm stock, aside from being a necessity to the economical management of the farm, would be of very great assistance to the professor in agriculture as a means of illustration and instruction.

Respectfully submitted,

CHAS. O. FLAGG,

Professor of Agriculture.

BOTANY, MICROSCOPY AND HORTICULTURE.

To the President:—

In accordance with your request I have prepared, and have the honor herewith to submit the following statement concerning the instruction given in botany, microscopy and horticulture under the present course of study:

BOTANY.

The exercises in botany begin the second term of the sophomore year, with a brief introduction to the subject which is followed by the study of some of the

simpler phenomena connected with the life history of common plants. Young plantlets are first examined asleep in the seed, then their development, that is, their awakening into growth, *germination*, and their production of leaves and branches, *vegetation*, and later the transformation of leaves into flowers, and the maturity of flowers into fruits, and finally the death of the plant. Then the structure of the various parts of plants is considered. Seeds, roots, stems, flowers and fruits are dissected and examined under simple microscopes. This is followed by the study of the forms, *morphology*, of the parts of plants and this again in an elementary manner with the minute structure, *histology* of plants. Isolated plant cells are shown under the compound microscope, and attention is called to the fact that the vegetable-cell is the unit of all vegetable growth, and that upon its variation depends the volume, shape and structural characteristics of every plant. Also starch grains, crystaloids, cell crystals and other microscopic products of the plant cell are examined and their value as food and for other purposes considered. This is followed by the study of the special functions, *physiology*, of the various parts of plants. That is, roots are organs peculiarly adapted to hold the plant in place, and to absorb watery solutions from the earth—which in combination with certain gaseous substances furnish the principal nutrition of plants. Stems are adapted to support the foliage and furnish channels, through which the solutions absorbed by the roots pass up into the leaves, where in the green expanded surfaces the preparatory changes, *assimilation*, which fit crude inorganic materials for plant food, take place under the influence of sunlight.

After having thus become familiar with the forms, structure and physiological relations of the parts of plants, the general principles of the classification of plants are taken up in the spring term of the sophomore year, with careful study of the arrangement by the "natural system" and the rules for nomenclature.

The American Botanist and Florist (Wood) is used as a text-book and both cultivated and wild plants are studied alike. Several kinds of plants are brought into the class-room each day for analysis until sufficient progress has been made in the use of the analytical keys of both Wood's and Gray's Manuals and a familiarity has been acquired with the distinguishing characteristics of the important orders and genera so that they can be identified at sight. Special effort is then made to place before the class as many representatives of a single family or genus as possible, in order to compare the species During the term each student prepares an herbarium of not less than 100 specimens.

In the junior year those students taking the agricultural course continue the study, using Bessey's Botany, advanced course, as a text-book. Here the *general*

anatomy and physiology of plants is studied under the compound microscope. Protoplasm, the active living matter in plants is examined and its behavior watched under favorable and unfavorable conditions for its existence. The formation of new cells, tissues and the plant-body as a whole are considered, and in a like manner the sources of plant nutrition, the transformation of inorganic substance within the plant into vegetable matter, the movements of fluids in plants, plant products, the relation of plants to external agents and certain movements of parts of plants are investigated. This is followed later in the junior year by an elective course in the *special* anatomy and physiology of plants. The principles of the classification of the lower orders of plants, that is, the moulds, algæ, fungi, lichens and mosses are studied with the characteristics of important orders and typical genera, the affinities of groups of plants and the distribution of plants in time. All of the exercises of the elective course take place in the laboratory.

MICROSCOPY.

This course is arranged to occur in the junior year and consists of discussions upon the microscope ; what it is, what it does, different kinds of microscopes and the principles of their construction. The adaptation of microscopes for special purposes, methods of testing microscopes, accessory apparatus, use and care of the microscope, preparation and examination of objects, mounting objects, the use of the camera lucida in making drawings of microscopic objects, and micro-photography. In connection with the discussions, instruments are used during the entire course. The number of instruments that could be secured for the use of the class during the past year has been insufficient, and for this reason the progress of the practical work in both microscopy and advanced botany has been somewhat retarded.

HORTICULTURE.

The course of horticulture as at present planned, commences in the fall term of the junior year with the study of our cultivated fruits. Particular attention is given to their culture, the production of new varieties and their propagation by grafting, budding, cuttings, layers and suckers, and to their insect enemies and fungous diseases. Budding and other educational work has been done from time to time in the nursery and fruit garden, and excursions are occasionally made from the class-room to the Experiment Station trial plots, to examine the growth of new fruits or vegetables. So far as possible, typical specimens of fruits are used for illustration.

In the winter term of the senior year three hours a week are devoted to the

study of market gardening. This course embraces discussions on the location of the market garden, drainage, fertilizers, the use and management of cold frames, the construction and management of hot beds, forcing pits, and greenhouses for forcing vegetables, together with the study of the characteristics of and the special treatment required by the various kinds of vegetables grown in market gardens.

Respectfully submitted,

L. F. KINNEY.

GEOLOGY.

To the President:—

The course in geology will embrace a study of the chief divisions employed in historical geology, or the study of rocks, the elements and minerals of which they are composed and the natural processes by which they are changed to soil.

Especial attention will be paid to the study of soil, soil analyses, and the causes of soil sterility.

Occasional excursions will be made to places of especial geological interest for the purpose of fixing more firmly the ideas obtained in the class-room and for the purpose of obtaining a practical idea of the methods employed in making geological maps and general geological observations.

Respectfully submitted,

H. J. WHEELER.

MATHEMATICS.

To the President:—

The time devoted to mathematics in the Freshman year is spent in the study of algebra and plane geometry. The work in algebra consists of a systematic drill in the fundamental operations, leading up to a study of the equation, simple and quadratic, the theory of exponents and radicals. Especial attention is given to the expression by means of equations of the conditions of a problem and the exact methods of reasoning involved. During the last few weeks of the summer term the students in the Mechanical course are given a short course in higher algebra and the theory of equations such as will be necessary for their advanced work.

In the course in plane geometry, beginning with the second term, particular stress is laid upon the original demonstration of propositions in order best to develop the rigidly logical methods of thought which are the outcome of exact geometrical work.

During the sophomore year the plane geometry is finished, and solid geometry taken up by the Mechanical students in the same lines already developed. The second term work is given to trigonometry by both Agricultural and Mechanical men, with special reference to the fundamental relation of the functions of angles and the solution of triangles such as will be most useful in surveying. Practical work in surveying is given during the spring term, and this work is continued through the first term of the junior year, by the Agricultural students, while the Mechanical students enter upon the subject of analytical geometry, studying first the nature and meaning of a locus, and the analytical demonstration of many geometrical theorems, and later developing the simpler properties of the conics. A short course in descriptive geometry is also given during the first term. Calculus is studied during the last term of the junior and the first of the senior years, and the last two terms of the Senior year are devoted to mechanics, with many practical applications.

The primary aim of the entire course in mathematics is to stimulate original work, to insist upon and develop a capacity for clear thinking and logical, systematic reasoning such as will prove invaluable in any department of study or life, as well as to achieve familiarity with such mathematical principles as are necessary for applied work.

A year's work in elementary physics, with constant laboratory work is given to the Sophomore class. This course covers the elementary principles of mechanics, hydrostatics, heat, sound, light and electricity, illustrated with copious lecture-room experiments as well as by individual experiments performed by the students in the laboratory. A further course in electricity is offered during the winter term to juniors taking the Mechanical course, which includes a further study of the best accepted theories of electricity and the manifold practical applications of this still mysterious force, together with laboratory work in exact measurements and the use of electrical and magnetic apparatus.

TEXT BOOKS.

Academic Algebra. Wells.
Plane Geometry. Wells.
Solid Geometry. Wells.
Trignometry & Surveying. Wentworth.
Elements of Electricity and Magnetism. Thompson.
Analytic Geometry. Hardy.
Elements of Calculus. Taylor.
Descriptive Geometry.
School Physics. Appleton.

Respectfully submitted,

A. BOSWORTH,

Professor of Mathematics.

ENGLISH.

To the President :—

This subject includes rhetoric, composition and literature. The aim of the instruction is to teach the student to speak and write good English and to appreciate our literature.

The language course extends through the first two years. During the first half of the Freshman year, the work is largely elementary ; consisting of exercises in reading, spelling, grammar, punctuation and capitalization. Rhetoric is then begun, the aim being to give the student little theory and much practice. Though the critical study of literature does not commence until the Junior year, an effort is made in connection with the language work, to acquaint the two lower classes with some master-pieces of noted American authors.

As much time as possible during the four years will be given to practice in composition.

Formal work in English literature will begin with the winter term of the Junior year, and four hours a week for the remainder of the year will be devoted to it. In 1893-4, elective courses will be offered to the Seniors. The different periods in the history of English literature and the forces active in its development will be studied. A writer will be treated, not as an isolated fact, but as related to his age. The principle that the only way to know an author is to read what he has written, will be kept in mind, and a large part of the time will be given to a study of his works.

HISTORY.

The course consists of outline work in American and general history, and is taken during the Freshman and Sophomore years. Myer's General History is the text-book used, and the method is largely topical. As the facilities for collateral reading increase, this will be made a prominent feature of the work.

FRENCH.

French is required during the Sophomore year and elective during the Junior year. It is hoped that the student will acquire a good reading knowledge of the language ; and as means to this end, grammar work and translation are employed. During the first year, the elements of the language are studied in Edgren's Grammar and Super's Reader. The second year, it is intended that the class shall read advanced French, both stories and plays.

GERMAN.

The first year's work in German taken by the Junior class, consists of grammar, composition, conversation, dictation and the reading of easy stories and

poems. Otis's Grammar and Brandt's Reader are the text-books used. In the Senior year, there will be an outline study of German history and literature and a critical reading of Schiller's "Die Jungfrau von Orleans" and Lessing's "Minna von Barnhelm." Other courses—in Scientific German, Goethe's Works, the Modern German Novel, and the German Ballad—will be offered as occasion may demand.

Respectfully submitted,

E. J. WATSON,

Professor of English, French and German.

MECHANICAL DRAWING.

To the President:—

I have the honor of submitting the report of the department of Mechanical Drawing. This work begins in the second term of the Sophomore year. The Agricultural students have instruction in the use and care of drawing instruments, geometrical figures, orthographic projection, field platting, lettering plans, frame elevation and isometric drawing of a building. As more time is allowed the Mechanical student for draughting, he can give more attention to detail and quality of work. The second term of the Sophomore year is the same for both Agricultural and Mechanical students. The third term of the Sophomore year is occupied with more advanced geometrical problems, orthographic projections, tinting, study of bolts, nuts and the different kinds of screw threads, with the details and assembled drawings of some machine. Descriptive Geometry is pursued during the first Junior term, the problems being drawn to a scale. In the second Junior term, practical problems in descriptive drawing and perspective are treated. The architectural drawing comprises all the diagrams necessary to construct a dwelling house, and time is taken to consider some of the building details.

Respectfully submitted,

FREDERICK A. LANE,

Instructor in Mechanical Drawing.

MECHANICAL DEPARTMENT.

To the President:—

I herewith present the following report: The work accomplished by this department during the year has been very gratifying, especially so the interest shown in the making of many useful and ornamental articles.

In the carpenter shop we have twenty-one benches with twenty sets of tools, each set consisting of three planes, one saw, one hammer, one hatchet, one try square, one level, one compass and rule, one bit-stock, one brad awl, one screw-driver, two gauges (double and single), one drawing knife and one spoke shave.

We have a general tool-room in which are special tools to be lent to the students at each bench. These tools are lent under the supervision of my assistant, Mr. Lane, by means of a system of checks. Some of these tools are bits, chisels, splitting saws and coarse cross cut saws, planes of all kinds, mallets, augers, wrenches, carriage-makers' clamps, &c, &c.

In the turning room we have: One eight-horse power (ten-horse power boiler) Nichols and Langworthy steam engine (bought at Hope Valley); sixty-two feet shafting; six wood-turning lathes; one jig-saw; one set of emery wheels; one grindstone; one raw bone grinder;* one iron framed splitting and cutting-off saw combined; one cob crusher;* one burr-stone grist mill.*

The regular course in the carpenter shop begins with a series of progressive exercises in planing, mortising and fitting. Special attention is given to the care and sharpening of tools, which is illustrated by blue prints. The student next passes to the turning room, where he is obliged to complete another set of graded exercises before taking up the more difficult ornamental forms, viz.: burdette-holders, gavels, vases, curves and form patterns, adjustable retort stands, etc. There is also a course of machine sawing on the circular and scroll saws. This work is followed by pattern making and iron work during the rest of the course. It is recommended that painting, forge work, soldering and steam-piping be given special attention. The student works almost entirely from drawings or sketches. Before beginning an article he is required to make a working sketch of it. It is not intended to teach the student any one complete trade, but to give him a general knowledge of how to use a tool or machine, and of the methods of "laying out" work Special work will be arranged for the short winter course.

The class in wood-carving for young women is doing very satisfactory work. Many useful and ornamental articles have been made during the year.

The students are required to pay for the tools they break while working in this department, and one dollar each term is charged for materials used, and wear and tear of tools. If the pupils wish to take home what they have made they are allowed to do so by paying for the material.

---

*These machines are owned by the Experiment Station, but the power is furnished by the college engine which is manipulated by the students.



Mechanical Department.

The work accomplished by this department during the year is as follows : One carriage-shed, sixteen feet by fifty-one ; two corn-cribs (capacity eight hundred bushels); physical apparatus cases ; three book-cases ; one case drawers for Experiment Station ; sign-boards (painting and setting) for town of South Kingstown ; brooding houses ; feed chests ; revolving book-case ; remodeling greenhouse for Horticultural Department ; building horse stalls for Station barn ; photographic apparatus ; blue print frames ; repairs on woodshed and carriage-house ; fertilizer carrying case ; nine soil boxes for Columbian Exposition ; agricultural tool-room ; one bicycle shed ; two oak book-cases ; one lounge ; one oak table ; one dining table. Only a few of the many things required of our department are mentioned.

Our cramped quarters are a great hindrance to the success of our work, and we hope soon to have ampler accommodations and better facilities for this department.

Very respectfully,

THOS. C. RODMAN,

Instructor in Wood-work.

COURSE OF STUDY

OF THE

Rhode Island College of Agriculture and Mechanic Arts.

Freshman Year.

FIRST TERM.

Algebra ..... 5 hours.
English ..... 5 "
Physical Geography ..... 3 "
History ..... 2 "

Afternoon.

* Agriculture ..... 2 hours.
† Military Drill ..... 1 "
Bench Work in Wood ..... 6 "

Saturday.

Military Tactics ..... 1 hour.
Inspection ..... 1 "
† Military Drill ..... 1 "

SECOND TERM.

Algebra ..... 4 hours.
English ..... 5 "
Physiology ..... 3 "
Geometry ..... 3 "

Freshman Year.

Afternoon.

Bookkeeping and Business Law ..... 5 hours.
Agricultural Mechanics ..... 6 "

Saturday, same as First Term.

THIRD TERM.

Algebra and Logarithms ..... 5 hours.
English ..... 3 "
Geometry ..... 3 "
Physiology ..... 2 "
History, (Ancient) ..... 2 "

Afternoon.

Free Hand Drawing ..... 4 hours.
Agriculture ..... 4 "

Saturday, same as First Term.

---

* Agriculture will include Farm Management, Buildings, Tools, Crops and their cultivation, Soils and Drainage, Manures and Fertilizers, Stock Breeding and Feeding, with lectures upon Dairying and specialties in Agriculture.

† Military instruction will be given on the appointment of an officer by the War Department to our college.

Agricultural Course. Sophomore Year.

FIRST TERM.

Geometry ..... 3 hours.
Agriculture ..... 3 "
Physics ..... 3 "
English ..... 3 "
* Modern Language ..... 3 "

Afternoon.

Free Hand Drawing ..... 2 hours.
Practical Agriculture ..... 2 "
Physical Laboratory ..... 2 "
Wood Work ..... 3 "

Saturday, same as Freshman Year.

SECOND TERM.

Trigonometry ..... 3 hours.
Botany ..... 4 "
English ..... 2 "
Physics ..... 3 "
Modern Language ..... 3 "

Afternoon.

Mechanical Drawing ..... 2 hours.
Modeling ..... 2½ "
Wood Work ..... 3 "
Physical Laboratory ..... 2 "

Saturday, same as First Term.

THIRD TERM.

Surveying ..... 1 hour.
Physics ..... 3 hours.
Botany ..... 5 "
Modern Language ..... 3 "
Chemistry, (Inorganic) ..... 3 "

Afternoon.

Physical Laboratory ..... 2 hours.
Practical Surveying ..... 6 "
Experimental Chemistry ..... 2 "

Saturday, same as First Term.

Mechanical Course. Sophomore Year.

FIRST TERM.

Plane Geometry ..... 3 hours.
Solid Geometry ..... 3 "
Physics ..... 3 "
English ..... 3 "
* Modern Language ..... 3 "

Afternoon.

Free Hand Drawing ..... 2 hours.
Constructions ..... 6 "
Physical Laboratory ..... 2 "

Saturday, same as Freshman Year.

SECOND TERM.

Trigonometry ..... 3 hours.
Botany ..... 4 "
English ..... 2 "
Physics ..... 3 "
Modern Language ..... 3 "

Afternoon.

Mechanical Drawing ..... 2 hours.
Modeling ..... 2½ "
Iron Work ..... 3 "
Physical Laboratory ..... 2 "

Saturday, same as First Term.

THIRD TERM.

Surveying ..... 1 hour.
Physics ..... 3 hours.
Botany ..... 5 "
Modern Language ..... 3 "
Chemistry ..... 3 "

Afternoon.

Experimental Chemistry ..... 2 hours.
Physical Laboratory ..... 2 "
Mechanical Drawing ..... 3 "
Iron Work ..... 3 "

Saturday, same as First Term.

*Modern Language will be French or German; a course in Conversation, Composition, and scientific French and German is given.

Agricultural Course. Junior Year.

FIRST TERM.

Road Construction and Leveling ..... 3 hours.
Zoölogy and Entomology. ... 4 "
Inorganic Chemistry. ..... 3 "
Modern Language..... 3 "
Horticulture ..... 2 "

Afternoon.

Qualitative Analysis..... 4 hours.
Practical Horticulture ..... 2 "
Leveling and Road Surveying 3 "

SECOND TERM.

*English..... 4 hours.
Agriculture..... 3 "
Organic Chemistry..... 3 "
Modern Language..... 3 "
Physiological Botany .... 2 "

Afternoon.

Microscopy..... 2 hours.
Agricultural Mechanics..... 3 "
Qualitative Analysis ..... 6 "

THIRD TERM.

English..... 4 hours.
Agriculture ..... 4 "
Agricultural Chemistry. ..... 4 "
Modern Language ..... 3 "

Afternoon.

Chemical Laboratory..... 6 hours.
Elect 1. { Free Hand Drawing..... 6 "
Agricultural Mechanics... 6 "
Botanical Laboratory work 6 "

Mechanical Course. Junior Year.

FIRST TERM.

Inorganic Chemistry..... 3 hours.
Analytical Geometry..... 4 "
Modern Language ..... 3 "
Electricity and Magnetism.... 3 "
Descriptive Geometry..... 2 "

Afternoon.

Qualitative Analysis..... 4 hours.
Physical Laboratory..... 2 "
Lathe Work ..... 3 "

SECOND TERM.

English..... 4 hours.
Analytical Geometry..... 4 "
Modern Language ..... 3 "
Calculus..... 3 "

Afternoon.

Qualitative Analysis..... 6 hours.
Lathe Work..... 3 "
Mechanical Drawing ..... 3 "

THIRD TERM.

English ..... 4 hours.
Calculus..... 3 "
Strength of Materials. ..... 2 "
Modern Language ..... 3 "
Principles of Mechanism .... 3 "

Afternoon.

Mechanical Laboratory. .... 2 hours.
Architectural Drawing..... 2 "
Elect. { Chemical Labratory ..... 6 "
Mechanical Drawing..... 3 "

*The course in English comprises the History of the English Language, Grammar, Composition, Essay Writing, Rhetoric, English and American Literature.

Agricultural Course. Senior Year.

FIRST TERM.

Anatomy and Physiology of Domestic Animals, and Veterinary Science .. ..5 hours.
Political Economy and Science of Government.....4 "
Modern Language . .....3 "
Agriculture..... .....3 "

Afternoon.

Apiary Work.....2 hours.
Orations.....1 "

SECOND TERM.

Veterinary Science.....4 hours.
Political Economy and Science of Government.....4 "
Astronomy.....4 "
Market Gardening.... .....3 "

Afternoon.

Geology.....2 hours.
Orations.....2 "

THIRD TERM.

Forestry and Landscape Gardening..... ....2 hours.
Geology.....2 "
Mental Science .....4 "
Veterinary Science.....4 "
Thesis Work .... 3 "

Afternoon.

Geology Excursions.....2 hours.

Mechanical Course. Senior Year.

FIRST TERM.

Calculus..... 3 hours.
Political Economy and Science of Government .. ..4 "
Theoretical and Applied Mechanics .....5 "
Elect 1. English Literature.....3 "
Elect 1. Applied Electricity.....3 "
Elect 1. Modern Language.....3 "
Elect 1. Chemistry..... ....3 "

Afternoon.

Orations .....2 hours.
Practice, Mechanical .... .. 6 "

SECOND TERM.

Astronomy..... ..... 4 hours.
Political Economy ..... 4 "
Theoretical and Applied Mechanics.....4 "
Elect 1. English Literature.....3 "
Elect 1. Modern Language .....3 "
Elect 1. Applied Electricity.. ...3 "
Elect 1. Chemistry .... 3 "

Afternoon.

Orations..... .....2 hours.
Practice, Mechanical.... ....6 "

THIRD TERM.

Thesis Work..... .....3 hours.
Mental Science.....4 "
Theoretical and Applied Mechanics ....5 "
Elect 1. English Literature.....3 "
Elect 1. Modern Language.....3 "
Elect 1. Chemistry ....3 "
Elect 1. Applied Electricity... .. 3 "

Afternoon.

Practice, Mechanical..... .. 6 hours.

REQUIREMENTS FOR ADMISSION.

The requirements for admission to the college embrace the ordinary English branches: Arithmetic, geography, English grammar and United States history.

We have no facilities for the boarding of young women at the college, the demand for industrial education for young women not having been sufficient to warrant the furnishing of special dormitory accommodations. However, if the young women can find accommodation elsewhere, they may receive a part or the whole of the instruction given. Some of the people in the village are willing to take students to board; such students are considered under the supervision of the college.

EXPENSES.

Expenses at the college will be as follows: Tuition free to Rhode Island pupils; table board at cost, or about $3.00 per week; necessary text-books, fuel and lights at cost; physical laboratory expense for breakage, if the student is ordinarily careful, $1.00 per term; chemical laboratory charges, $5.00 for chemicals during the spring term of the Sophomore year, the expense for other terms not exceeding that of the physical laboratory; in the mechanical shop, $1.00 per term for the use of tools; room-rent $5.00 per annum, or $2.00 per term; gas, an average of $1.00 per term; students to furnish their own furniture and bedding. The only other expense will be for heavy laundry work, 50 cents per dozen, two cents each for collars and cuffs. All clothing should be distinctly marked. Many students will find it convenient to send laundry work home, and so avoid that expense. Packages sent to the student by express or freight, in care of the college, will be taken from the station to the college free of charge. If the student desires aid in procuring his furniture, such aid will be given by the President, for whom special rates are made by the dealers.

LABOR.

All class work exercises will be made educative, and treated the same as laboratory work in any other branch of instruction. If a young

man comes here proficient in the practical agriculture as taught at our class work, the professor of agriculture may excuse him from that work, being convinced after examination of the student that he is proficient. Agriculture, both practical and theoretical, has the same dignity in our course of study that chemistry or any other study has; a student will be excused from the laboratory work or theoretical study of any branch in which he can pass a satisfactory examination, and the extra time allowed him for some other line of study. The labor of the students in the carpenter shop and at iron work is a part of their instruction, and is not paid for unless special arrangements be made with the professor in charge. Class work on the farm may be paid for at the price set by the professor of agriculture. All extra work outside of the required hours of labor is paid for when the student is employed by the superintendent in charge.

SELF SUPPORT.

Labor will be furnished to those students who are desirous of assisting themselves. There will be work about the buildings, on the farm, at the Experiment Station, and in the laboratories; much of this can be performed by the students.

PUBLIC WORSHIP.

The students are expected to be present at chapel exercises every morning, and on Sundays to attend service in some church at least once a day, unless otherwise excused by the president.

DEPORTMENT.

We have no rules for the guidance of the conduct of our young men, except that they deport themselves on all occasions as becomes gentlemen. Students who do not understand the elements of gentlemanly conduct will not continue to be members of our institution. Negligence or absence from class duties of any kind will be vigorously opposed.

LOCATION.

We have an excellent location on the hillside, which furnishes us with rapid drainage and a delightful view. We are less than two miles from the railroad station. A macadamized road leads from our grounds to the station, insuring us at all times a good walk and drive. The railroad station is situated on the New York, New Haven & Hartford R. R., with eighteen trains daily, in the winter, stopping at Kingston, and more in the summer. The town is a very healthful place, five or six miles from the ocean.

STUDENTS.

JUNIORS.

NAME.	RESIDENCE.	
Adams, Geo. E	Rocky Brook,	R. I.
Ammonds, Geo. C	Kingston,	"
Arnold, Chapin T	Lonsdale,	"
Birckhead, Philip G.	Kingston,	"
Burlingame, Geo. W	Glocester,	"
Clark, Helen M	Kingston,	"
Eldred, Mabel D	Kingston,	"
Knowles, John F	Kingston,	"
Madison, Warren B	East Greenwich,	"
Mathewson, Ernest H	Providence,	"
Nichols, L. Rodman	Allenton,	"
Peckham, Reuben W	Newport,	"
Rathbun, Wm. S	Peacedale,	"
Rodman, Geo. A	Peacedale,	"
Sargent, Chas. L	Peacedale,	"
Slocum, Samuel W	Peacedale,	"
Spears, John B	Foster Centre,	"
Sweet, Stephen A	Slocumville,	"
Tucker, Geo. M	Prudence Island,	"
Wilber, Robert A	West Kingston,	"

SOPHOMORES.

Albro, Lester F	Middletown,	R. I.
Almy, Philip W	Tiverton,	"

Browning, Elisha H	Narragansett Pier,	R. I.
Burdick, Amos E	Carolina,	"
Burdick, Howland	Newport,	"
Clarke, Chas. S	Jamestown,	"
Cross, Geo. W	Carolina,	"
Dimon, Walter B	Kingston,	"
Earnshaw, Herman P	Kenyon,	"
Emmet, Clara D	Peacedale,	"
Gardner, Carder C	Peacedale,	"
Hammond, John E	Jamestown,	"
Kenyon, Alice R	Carolina,	"
Kenyon, Elisha R	Green Hill,	"
Kinney, Asa S	Worcester,	Mass.
Morgan, Henry	Peacedale,	R. I.
Oatley, Lincoln N	Peacedale,	"
Proseus, Frederick W	Sodus,	N. Y.
Rathbun, Nathan C	La Fayette,	R. I.
Scott, Arthur C	Summit,	"
Sharpe, Russell V	East Greenwich,	"
Spink, Bessie E	Wickford,	"
Tefft, Jesse C	Jamestown,	"
Winsor, Byron E	Summit,	"

FRESHMEN.

Barton, Benjamin	East Greenwich,	R. I.
Brayton, Chas. A	Fiskeville,	"
Brown, May	Narragansett Pier,	"
Burgess, Geo. F	Ballouville,	Conn.
Caswell, Howard	Narragansett Pier,	R. I.
Clarke, John G	West Kingston,	"
Clarke, Matthew W	Kingston,	"
Greene, Lulie L	Charlestown,	"
Greenman, Adelaide M	Narragansett Pier,	"
Hughes, Chas. M	Newport,	"

Hull, Arthur L	Jamestown,	R. I.
Kenyon, Albert L	Point Judith,	"
Mann, Arlon W	Providence,	"
Moore, Nathan L. C	Shannock,	"
Rhodes, Burnside	Kingston,	"
Saunders, Nellie F	Carolina,	"
Sinclair, Frederick W	Brooklyn,	N. Y.
Taber, Herbert E	West Kingston,	R. I.
Wright, Silas W	Wakefield,	"
Tabor, E. F	Slatersville,	"
Tanner, Robert F	Carolina,	R. I.

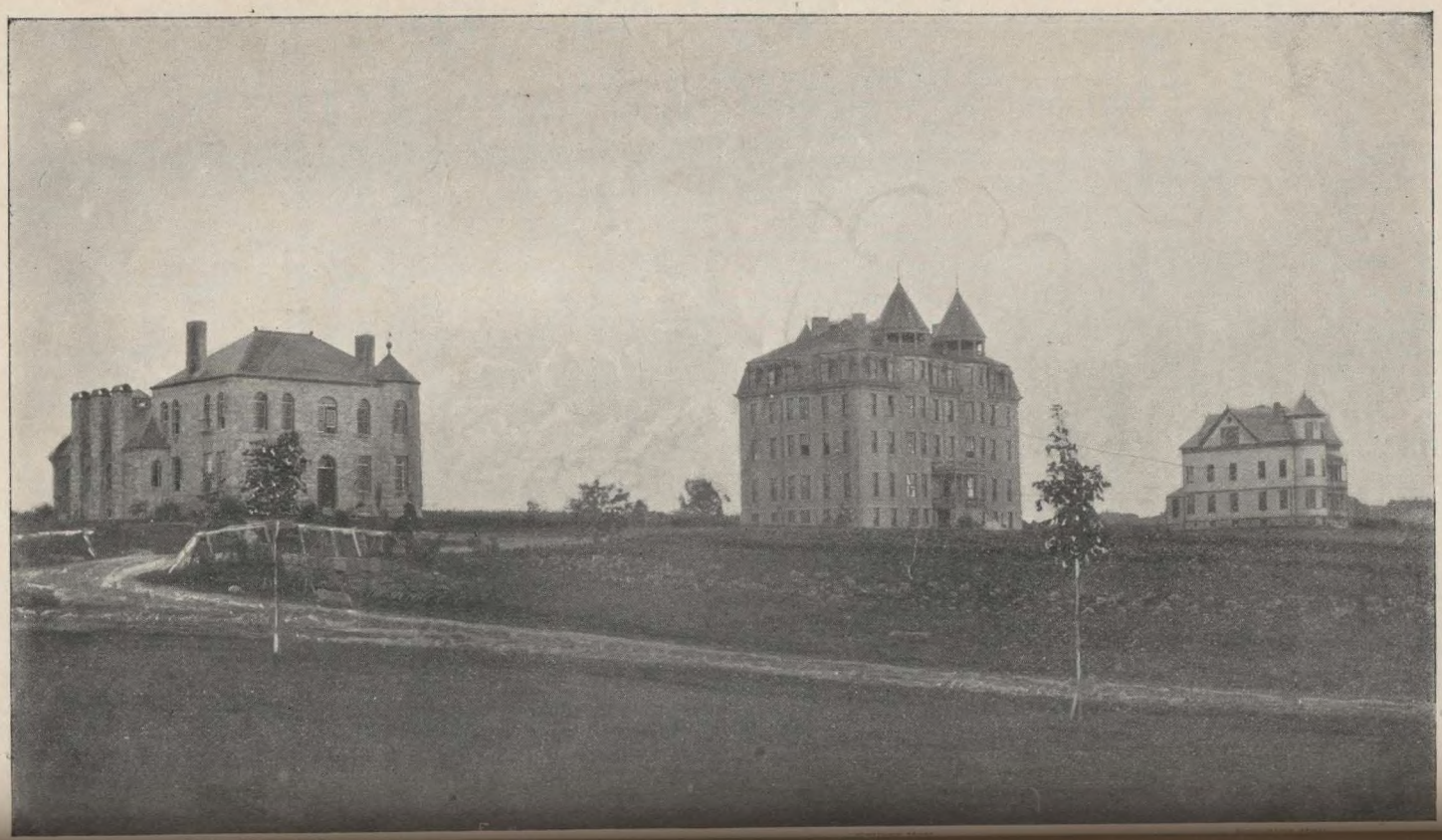
SPECIAL.

Barber, Annie E	Kingston,	R. I.
Caswell, Susie C	Wakefield,	"
Clarke, Myra	West Kingston,	"
Eldred, Vernon	Wickford,	"
Jillson, Leroy C	Woonsocket,	"
King, Ruth E	Carolina,	"
Healy, Frederick C	Allenton,	"
Peckham, Joseph A	Middletown,	"
Peckham, Walter E	Little Compton,	"
Tabor, William H	Slatersville,	"
Willis, Winnifred	Kingston,	"

Six students not counted above have been taking special instruction in wood carving.

Twelve students not counted above have been taking special instruction in clay modeling.

Full total, ninety-three.



REPORT OF THE TREASURER.

Melville Bull, Treasurer, in account with the Rhode Island College of Agriculture and Mechanic Arts.

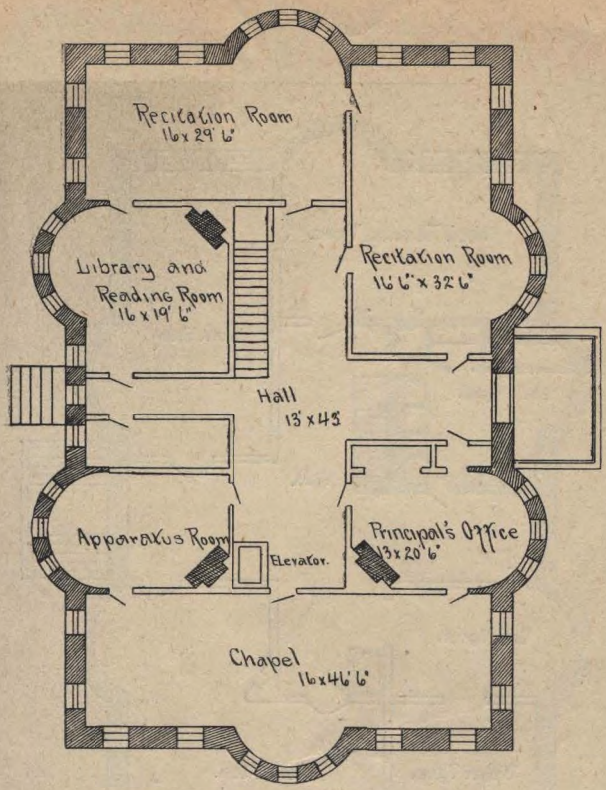
1892.	RECEIPTS.		
Jan. 1.	Of balance from last account	$21 17	
	Balance of Appropriation for $6000	209 44	
Feb. 24.	State of Rhode Island	5000 00	
Mar. 8.	State of Rhode Island	5000 00	
Dec. 31.	J. H Washburn for board, books, stationery, etc	4346 38	
	Incidental credits	259 53	
	Cash received from interest	51 85	
			$14,888 37

1892.	EXPENDITURES.		
Dec. 31.	Paid Salaries	$6467 38	
	Apparatus	65 97	
	Library	106 32	
	Postage, stationery and printing	571 67	
	Freight and express	119 70	
	Travelling	121 55	
	Tools and Machinery	173 28	
	Labor	1619 13	
	Vet. Dep't supplies	47 50	
	Furniture	373 66	
	Incidentals	1382 65	
	Laboratory supplies	694 00	
	Construction and repairs	1060 59	
	Provisions	1491 53	
	Boarding expense	592 46	
	By Cash balance on hand	98	
			$14,888 37

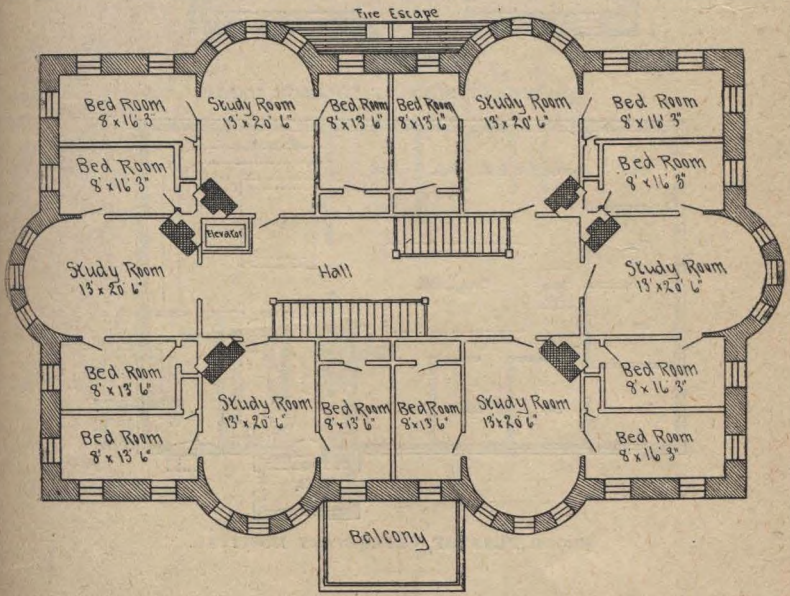
PROVIDENCE, Jan. 18, 1893.

THIS is to certify that the undersigned Auditing Committee of the Board of Managers of the Rhode Island College of Agriculture and Mechanic Arts, have examined the account of Melville Bull, Treasurer, and find the same to be correct, leaving a balance of ninety-eight cents.

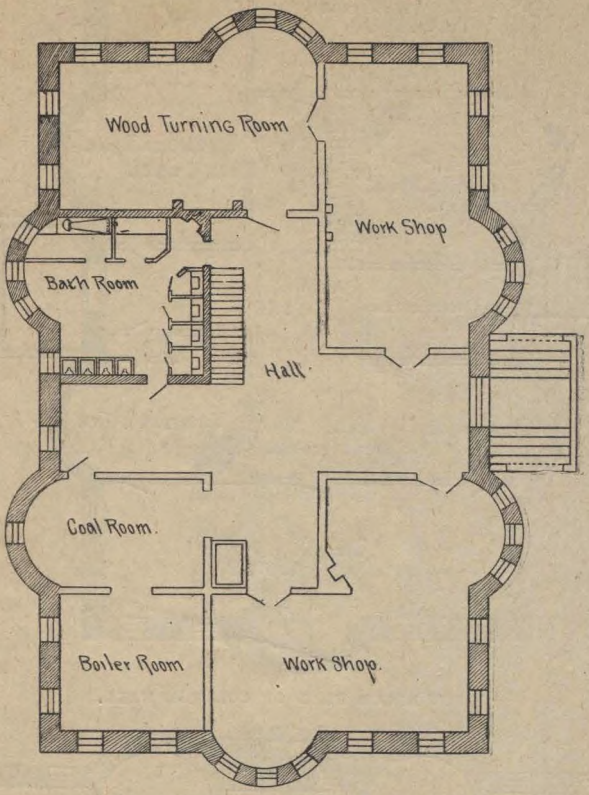
CHAS. J. GREENE,
CHAS. O. FLAGG,
NATHAN D. PIERCE, JR.



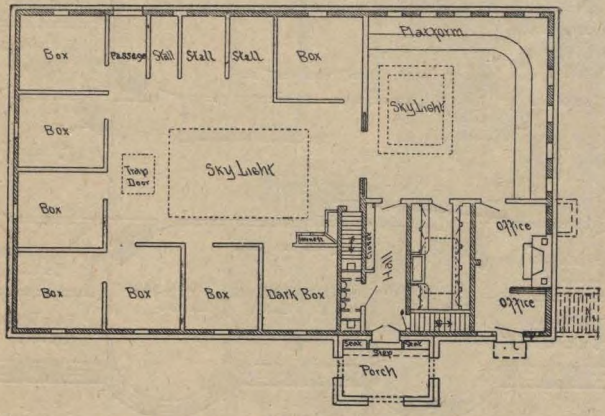
FIRST FLOOR PLAN OF COLLEGE HALL.



SECOND, THIRD AND FOURTH FLOOR PLAN OF COLLEGE HALL.
Showing size and arrangement of students' rooms.



BASEMENT PLAN OF COLLEGE HALL.



FLOOR PLAN OF VETERINARY HOSPITAL.